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XIX.—*Some Observations on a Collection of Human Crania and other Human Bones at present preserved in the Crypt of a Church at Hythe in Kent.* By ROBERT KNOX, M.D., Hon. F.E.S., Corresponding Member of the Imperial Academy of Medicine of France, and Foreign Associate of the Anthropological Society of Paris, etc., etc.

WHILST residing at Dover for a short time during the autumn of the present year (1860), I recollected the rumours I had heard some years ago of a vast collection of human crania and other human bones piled up in a vault under the church of Hythe, and I availed myself of the opportunity of examining these bones in the company of my esteemed friend, Mr. A. Phillips of Dover. Access to them was easy, and generally speaking they are in a good state of preservation. Some hundreds of the crania having been placed on shelves facilitated their examination; in addition to these there is a vast pile of other bones, including also many crania, in the same vault or crypt (under the east end of the chancel of the church), a pile measuring about twenty-eight feet in length by eight in height, and as many in depth or breadth. This pile seems composed mostly of bones of the extremities, but I observed many skulls and fragments of skulls, as well as portions of the haunch bones or pelvis. Our time did not admit of an examination of the contents of this vast pile of bones; which, in so far as I could observe, consisted of the bones of adult men of good size, some evidently of large stature. Amongst them I observed a well-marked specimen of a rickety tibia and ulna, showing that the disease we now call rickets was not unknown at the time these men perished, whatever might be the date. There were two or three bones which evidently had belonged to children, and two crania of boys apparently of eight or ten years of age; all the rest had belonged to adult men. The crania and other bones presented but few varieties; a fact, however, which may in part be attributed to this; that they are chiefly the bones of the adult. No specimen of the humerus shewed a supra-condyloid process, and in one only was the supra-trochlear cavity perforated by an opening passing through the bone. Such varieties are by no means uncommon at the present time, and specimens may be found in most museums of human anatomy.

The crania arranged on the shelves chiefly attracted my attention. They much resembled each other. *I did not observe any female crania.* The crania, in brief, strongly resembled those of the present inhabitants of South Britain. They presented few varieties, and none peculiar or different

from what we now find. The crania generally are well formed and of good size; the jaws are comparatively small, or at least well proportioned; the teeth regular and sound; the malar bones not particularly prominent; the sutures distinct and well articulated. The squamous suture uniformly arched; supernumerary bones are not of frequent occurrence, and the crania throughout are nearly symmetrical, or as much so as we expect to find them. The nasal bones are well formed, and none of the crania exhibit marks of pressure, whether applied before or after death. They seem to have belonged, if not wholly, at least in a great degree, to adult men in the prime of life. Several bear the marks of violence, as if inflicted by a sharp weapon; in one a small orifice penetrated through and through the skull, but the mischief might have been caused by disease, and had most assuredly taken place long prior to the death of the person, as was evident by the large amount of new osseous matter deposited all around the opening. Of disease I found only one specimen among the crania, and a second less distinct. This was a case of hypertrophy of the bones of the cranium, a disease first described by the elder Jussieu.\*

Under this head may also be included a few enormously heavy skulls of the density of ivory, a more advanced stage probably of the disease described by Jussieu.

I had almost forgot to mention a case of caries of the left parietal bone with no attempts at a cure by nature, shewing that caries was just as incurable then as now. In one instance only, and this is sufficiently remarkable, did I find a narrow elongated cranium, with the remarkable transverse depression across the head, which Mr. Foville, erroneously no doubt, ascribed to tight swathing of the child immediately after birth. This cranium was dense and fully ossified. None of the crests in these crania were prominent, nor had the bones any appearance of belonging to a hardy, coarse, primitive race.

The frontal sinuses are often very large and generally quite distinct. An exostosis of large size occurred on the palate of another specimen, and one man had lost all his teeth. Whatever, then, was the condition of the country inhabited by these men, one thing is certain, that neither the climate nor mode of life had proved unfavourable to the human system. Low countries, such as Holland, are supposed to cause the greatest amount of diseased bones amongst its population; now ancient Kent was exceedingly marshy, and reputed unhealthy to a late period, and from this one might infer that these skeletons

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\* This malady is not confined to man; for I have known it attack the ape or baboon when confined in our menageries.

did not belong to Kentish men. But such a conclusion could not be drawn with safety. These human crania, independent of the peculiarities caused by difference of race, present, as in all races, certain varieties, to which of late years the transcendental anatomist has given great attention. I shall here allude briefly to these; one general remark I may as well make here; the various conformations which these crania present are in no shape peculiar—neither, as it seems to me, are they so numerous as we find in modern crania. Nevertheless it is important to ascertain their presence or absence in any section of the human family. If wholly absent, they would imply a uniformity in the laws of reproduction, more resembling what is presumed to exist amongst savage races of men, or even the lower animals (amongst whom uniformity is the rule), than what takes place in the populations of densely populous civilized countries, where varieties in formation are presumed to occur much more frequently. Now amongst these crania I could observe but few varieties.

In one case a very distinct anterior interparietal bone existed; in another an equally distinct posterior interparietal bone; in two the frontal bone overlapped the parietals. In two there were supernumerary bones in the lambdoidal suture, and in one a supernumerary bone lay between the wing of the sphenoid and the parietal. There was a distinct speno-parietal suture in all examined. This remarkable variety in the articulation of the bones of the head, I was, I think, the first to observe; it occurred in the cranium of a person of a coloured race, and struck me as remarkable, in so far as it repeats the formation of the oran, ape, baboon, and other lower animals, in whom the large wing of the sphenoid frequently does not extend to the parietal. I afterwards found that the variety occurs in the white races of men, and does not seem to influence the development of the base of the sphenoid bone, which is of course the more important part. Nevertheless, it is a variety well worth noting when it does occur.

In that excellent work, *The Crania Britannica*, now in course of publication, there is an engraving of a skull disinterred at Ozengell in Kent, in which this variety is well marked. The authors consider it to be an *ancient Anglo-Saxon* skull.\*

The conclusion I venture to draw from the examination of the collection at Hythe is, that the causes, whatever they may be (and they are still unknown) which give rise to the class

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\* The left side of the skull only is shewn in the engraving; it would be interesting to know if the variety occurs also on the right side.

of varieties in the form of the human skull I now speak of, were not operating to the same extent on the population then as in the present day, but that they existed and shewed themselves occasionally. The laws of deformation must be as uniform as the laws of regular formation; what exists now must have existed long ago, but in natural science it is always of the last importance to prove by demonstration that such is the case. If the age of these skulls be 1400 years, then the same laws of formation and of deformation which prevail now prevailed then; the climate may have altered, but not the laws of life. The period it is true is but a drop in the ocean of time, and it may be of human life on the globe; still, if we admit each century to embrace three generations, then for forty-two generations the leaves of autumn have dropped into the grave since these men stood erect on English soil. During this long period, the form of the head in England has not altered. This leads me to the question of the antiquity of these bones.

What is the antiquity of these human relics, and to what race or nation did they belong? In the absence of historical facts we shall find it difficult to answer these questions.

In the vault of the church of Hythe, containing the pile of bones I examined, there hangs a written statement that these bones are the remains of persons who were slain in battle in 842, in the reign of Ethelwolf, fought between the Britons and the Danes. This gives them an antiquity of about 1000 years, and further states them to be the remains of the Danes who fell in that battle. This written statement is not authentic, and was probably copied from Hasteet. Mr. Mackie, in an excellent work on Folkestone, says, in reference to the pile of bones at Hythe, that "a memorial written in a fine hand by the favourite pupil of a local pedagogue is hung in the vault, stating on the authority of an ancient history of Great Britain, these bones to be the relics of a sanguinary battle with the Danes who landed here in 842, when the Britons (?) though victorious, were so horrified with the slaughter, that they fled and left the carcases of their enemies to whiten on the strand, from whence long afterwards their bones were gathered up and deposited in the church."

Mr. Mackie thinks that this tale is of modern invention, for the Rev. James Broome, the rector of Cheriton, the adjoining parish, and who must have been thoroughly acquainted with the district, writing at the beginning of the last century, mentions no such tradition. On the contrary, speaking of this great stack of dead men's bones and skulls, he tells us, "that how or by what means they were brought to this place (the charnel house under the church) the townsmen are altogether

ignorant, and can give no account of the matter; he then adds, "probably the first occasion of them might be from what is related by Henry Knighton, *De Eventibus Anglicæ*, lib. iii, p. 2503, how, that in the reign of Edward I, about the year 1295, the then King of France, sending about three hundred ships for an English invasion, one of them, more favoured than the rest, came directly for Hythe, where, landing her men, the English who were there placed for the defence of the port, killed at that time two hundred and forty men, all that ship's crew, and afterwards burnt the ship out of which they landed. Now after this slaughter, these men's bones, in all probability, might be gathered up and laid here, after which daily accessions of more might be made till they increased to so vast a number as is still visible." Leland, too, though in the passage we have just quoted, he notices the "fair vault under the quire," makes no mention whatever of these bones. Whether they are, after all, anything more than a mere assemblage of such relics dug up at various times in the churchyard, or brought from some Roman or Saxon cemetery in the vicinity, is perhaps doubtful, but it is certainly curious that many of the skulls have the marks of violence upon them. The author has, on the other hand, in his possession, many fragments of Roman Saxon pottery and of mediæval coarse earthenware, which have been found very recently in restacking a portion of the pile.

As at Folkestone, several churches known to have existed at Hythe, have disappeared, though here more probably through the desecrating hand of man, than by the destructive action of the sea; for the condition of the soil, as well as historical facts, shew the gain of the land at this spot (Hythe) for many centuries.

"Altogether," Mr. Mackie observes, "there is much to interest us in Hythe, and more than I am able to bring into this little volume; indeed, its importance is such, that I feel it cannot be fairly treated as part of the neighbourhood of Folkestone, although the circle of my observations having extended considerably beyond it, I could not omit a brief notice."\*

The Rev. James Browne (p. 163) published an edition of

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\* The author adds, that "the quantities of beautifully preserved charters, books of corporate meetings, accounts, deeds, and manuscripts, dating at least from the reign of Edward I, which by the courtesy of the Mayor and Corporation of Hythe have been submitted to my inspection, have fully determined me to appropriate a little book specially to this ancient and highly interesting town of Hythe, which will form another of the series of volumes which it is my intention to devote to the history of the Cinque Ports and their members."

*Somner's Forts and Ports of Kent*, and was the author of *Travels over England, Scotland, and Wales*, and of several other works, was the Rector of Cheriton Church from 1679 to his death in 1719; he was also chaplain to the Cinque Ports, Vicar of Newington, to which parish Cheriton was annexed in 1771, both churches being under the same patron. It is in the nature of every rumour to increase by progress (*fama crescit eundo*), so as at last to become prodigious and unintelligible. To add to other difficulties as regards the collection at Hythe, I find evidence of a well grounded report that there existed long ago a similar collection of bones in a church at Folkestone, whose history has some relation to that at Hythe.

Tracing these rumours backwards in time through the works of Hasted, Brome, Somners, Gough, Lambard and Camden, I think that the theories as to their origin may be arranged under the following heads:—

1st. That the collections of bones now at Hythe and those which once existed at Folkestone are merely the remains of churchyard bones collected promiscuously. Now, as regards the collection at Hythe this theory is untenable. Of that at Folkestone I do not venture to offer any opinion, for the vault has been for some time built up; and my excellent friend, Mr. Phillips, who kindly undertook this part of the inquiry for me, did not succeed in entering the vault.

2. That the bones at Hythe are the remains of the Frenchmen killed in the time of King Edward the First (1295), and this is by far the most probable theory. They have an antiquity then of 565 years, and belong to a mixed people composed of several races, amalgamated for the time into a nation, and strictly analogous to the inhabitants of Kent at that period. An examination of the skulls bears out this view; they do not exhibit any of the peculiarities of a primitive distinct race of men.

3. A third theory flows from another rumour, namely, that they are the bones of the Danes slain in the battle between the English and Danes. Of this battle there is more than one account; according to some the bones at Hythe belong to both armies; others assert that the slaughtered Danes were buried at Folkestone, and the English at Hythe, whilst another account says that the Danish remains only were interred at Hythe, in proof whereof they point to some red hair still visible on one of the skulls. This was first observed by Mr. Alexander Walker, a distinguished anatomist. But neither can this theory be supported by an appeal to anatomy; for the Danish cranium could not be distinguished from the English of that day, composed of the ancient Belgian population of the

country, with an infusion of Teutonic and Saxon blood. At that time, and long before, South England was in the hands of the people we call Saxons, that is, Teutons, composed of Jutes, Angles, and old Saxons; in other words, of Middle and Northern Germans. This race is too closely allied to the Scandinavian to admit of any verification by anatomy.

4. Rumour assigns the collection of bones at Hythe to the result of a battle fought between Vortigern heading the English, and the Teutons or Saxons in 455. This rumour gives us the hypothesis that the Saxons retreated towards Folkestone and that their dead was buried there, leaving the dead of the Britons to be interred at Hythe. Mr. Walker, a distinguished anatomist, who examined, at the recommendation of my esteemed friend, Mr. Tibbet, of Dovor, the collection at Hythe, some years ago, took no notice of this hypothesis, seemingly unaware of the Folkestone collection, but boldly asserted that the bones at Hythe were those of both nations or peoples; that the rounded skulls were those of the ancient Celtic Britons, and that the elongated heads had belonged to the German or Saxon invaders (for the Danes had not appeared at that time), and, further, that the square-shaped heads were Roman. Against this hypothesis there stand the following objections:—

1. No such distinction into round or long heads is perceptible amongst the crania at Hythe.

2. The English of the time of Vortigern were not the ancient British, but a mixed population of Belgians and Romans, Kent having then been for more than three hundred years a Roman province.

3. The ancient British were not Celts, but Belgians, although I admit that there may have been at the time a strong admixture of a race strongly affiliated with the Celts, namely, the Kymraig. But both Celt and Kymraig had given way before the Belgic occupation many centuries before the landing of Julius Cæsar. Anatomy does not enable us to determine the race or nations to whom these crania belonged, in consequence of the strong affiliation of the races and their long admixture; in northern Europe the Scandinavian and Teuton, or true German, had been long in contact, and were, no doubt, much mingled together; in Gaul the Belgian, who belongs to the Gaulish race, had mingled deeply with the true Celtic population of central France; in southern France the Aquitanian and Celt had fought as a united people under Hannibal, and long afterwards; whilst nearer the Rhone, the Ligurian, and Aquitanian must have frequently entered into alliances, not because of their being limitrophic races, but by reason of their being faces naturally allied. In the north-eastern provinces of England and Scotland, the Teutons and Scandinavians had count-



less centuries before the advent of Cæsar driven the Celtic and Kymraig races into the mountains, that is, supposing that these races ever held possession of any portion of the lowlands of Scotland and England: a theory I greatly doubt.

In conclusion, the rumours I have just discussed are no doubt very ancient, and it would be interesting to ascertain the actual condition of the human remains in the church of Folkstone. Of the former existence of a pile of bones here similar to what still exists at Hythe there cannot, I think, be a doubt, as may, I think, be inferred by the following notice quoted from Hasted:—"In the north wall of the south aisle were deposited the remains of St. Eanswith in a stone coffin; and under that aisle is a large charnel house, in which are deposited the great quantity of bones supposed to be those of the Saxons slain in the battle fought near this place in the year 456." Leland also notices some facts bearing on this subject. Writing in the time of Henry VIII, he mentions the destruction of two churches by the encroachment of the sea, and further says, "hard upon the shore in a place called the castle yard, the which on the one side is dyked, and there be great ruins of a solemn old nunnery. The castle yard has been a place of great burial; yea, so much as where the sea hath worn on the bank bones appear, half flyking out."

XX.—*Notice of the Indians seen by the Exploring Expedition under the Command of Captain Palliser.* By JAMES HECTOR, M.D., and W. S. W. VAUX, M.A.

MANY travellers who have penetrated far into the Indian territories of North America and studied the manners, life, and habits of the Aborigines, are surprised at the inadequate and erroneous ideas they have previously conceived respecting these interesting and remarkable tribes. Yet, this can hardly arise from an absence of books on the subject. Much accurate and valuable information having long since been in print with reference to these people, especially in the able work of Mr. Catlin, on the North American Indians. The real cause of this seems to be, that, while these sources of sound knowledge are open to the public, other works of a more imaginative kind, such as the novels of Fenimore Cooper, have led the world generally to imagine the Indian to be a much more romantic personage than he really is. Nor, indeed, is this the only erroneous estimate which has been formed of this people; for they, on the other hand, who have only seen the Indians